

Abstract of the Invention

A gas spring includes an outer tube; a base plate; a head plate; an inner tube
5 mounted to extend between the head plate and the base plate; a piston/rod assembly
mounted to reciprocate vertically in the inner tube between a retracted, compressed
position and an extended, rest position; a valve ring coaxially mounted around the rod to
reciprocate between the main piston and head plate; a primary gas chamber; a relief
chamber; seals for preventing fluid flow from the primary and relief chambers; a
10 passageway providing communication between the primary gas chamber and relief
chamber; and, valve apparatus for controlling fluid flow between the primary and relief
chambers. The valve apparatus operates to open and close the fluid flow as a function of
the position and direction of travel of the piston/rod assembly.